NO. 4 ELECTRONIC SWITCHING SYSTEM

MACHINE ADMINISTRATION RECORDS

CONTENTS   **PAGE**

1. GENERAL

1.01 This section of the Dial Facilities Management Practices (DFMP) provides the machine administrator with information necessary to establish, use, maintain, and check the records required in job performance. A list of abbreviations used in this section is provided in Table A. DFMP Division H, Section 9c, "No. 4 ESS Assignments," discusses the assignments which are described by machine administration records.

1.02 The two basic types of records used by the No. 4 Electronic Switching System (ESS) machine administrator are software records and paper records. Software records are retrieved information which is stored in No. 4 ESS memory. Paper records are used to store information which is not provided by the No. 4 ESS.

No. 4 ESS Verify System

1.03 The No. 4 ESS verify system is used to retrieve software records. Most information retrieved through the verify system will be in the English language as a functional message. A functional verify message is designed to retrieve information from as many translators as necessary to perform a specific function. An example of a functional verify message is one to retrieve trunk

TABLE A

GLOSSARY OF ABBREVIATIONS

ABBREVIATION	DEFINITION
AC	Area Code
ADC	Acceptable Digit Count
AO	Area of Origin
AOOC	Automatic Out-of-Chain
AOOCRDB	Automatic Out-of-Chain Routing Data Block
CALTYP	Call Type
CAMA	Centralized Automatic Message Accounting
CCIS	Common Channel Interoffice Signaling
CIN	Circuit Identification Number
CMS	Circuit Maintenance System
CRT	Cathode Ray Tube
DDD	Direct Distance Dialing
DESEP	Destination Traffic Separation Class
DFMP	Dial Facilities Management Practices
EA1	Emergency Announcement Channel 1
EA2	Emergency Announcement Channel 2
ESS	Electronic Switching System
FHT	Final Handling Treatment
G	Go
GNS	Go/No-Go Screening
GNSC	Go/No-Go Screening Class
HNPA	Home Numbering Plan Area
INSEP	Incoming Traffic Separation Class
INWATS	Inward Wide Area Telephone Service
INWST	Inward Wide Area Telephone Service State Index
IS	Inward Wide Area Telephone Service State
LCI	Local Call Intercept
MAC	Machine Administration Center
MOC	Maintenance Operations Center
MSN	Miscellaneous Scanner Number
MTS	Multiple Treatment Screening

TABLE A (Cont)

GLOSSARY OF ABBREVIATIONS

ABBREVIATION	DEFINITION
MTSC	Multiple Treatment Screening Class
MTSI	Multiple Treatment Screening Index
N	No-Go
N010FHT	Intra-NPA 10-Digit Dialing Disallowed Final Handling Treatment
NPA	Numbering Plan Areas
NTD	Number of Translatable Digits
POTS	Plain Old Telephone Service
RCAM	Recent Change Action Message
RCDM	Recent Change Data Message
RDB	Routing Data Block
RDBI	Routing Data Block Index
ROA	Reorder Announcement
SA1	Spare Announcement Channel 1
SA2	Spare Announcement Channel 2
SDG	Subsequent Digit
SNPA	Served Numbering Plan Area
SP	Signal Processor
SPC	Switching and Permuting Circuit
T	Tone
TAN	Trunk Appearance Number
TG4	No. 4 ESS Translation Guide
TSI	Time Slot Interchange
TSG	Trunk Subgroup
TSN	Trunk Scanner Number
TST	Test
TTY	Teletypewriter
VCA	Vacant Code Announcement

subgroup (TSG) characteristics. The verify system will retrieve information from all translators necessary to provide the characteristics of the TSG. (Table B contains a listing of the No. 4 ESS verify messages and a reference to their use in this DFMP section.)

1.04 Machine language verification must be made to retrieve software records for which no functional English language verify message is available. Verify message 6a is to retrieve software records in language. To use verify message 6a, the machine administrator must notify the Maintenance

TABLE B

NO. 4 ESS VERIFY MESSAGES

MESSAGE NO.	CAN BE FOUND IN PARAGRAPH	FUNCTION
1a	4.03	2-Way TSG Characteristics
1b	4.03	One-Way Incoming TSG Characteristics
1c	4.03	One-Way Outgoing TSG Characteristics
2a	5.03	Trunk Assignment
2b	5.03	Trunk Assignment, CCIS Trunks
2c	5.03	Trunk Assignment, Misc. SP Points
3a	7.16	Protected Terminating Office Codes
3b	7.05	3-Digit Translation
3c	7.05	4-, 5-, or 6-Digit Translation
3d	7.05	7-, 8-, or 9-Digit Translation
3e	8.03	MTS Block
3f	7.12	Digit Type Translator
4a	8.12	CAMA Office Codes
4b	8.14	CAMA LCI Blocking Pattern
4c	8.13	CAMA Unauthorized Area Codes
4d	8.13	CAMA Unauthorized Office Codes
4e	8.14	CAMA Profile
5a	6.03	In-Chain RDB
5b	6.03	INWATS RDB
5c	6.03	AOOCRDB
7a	9.01	Unit Type Member Equipage
7b	9.01	Unit Type Submember Equipage
7c	9.01	Unit Type Entry
6a	1.04	Functional Translator Verify
6b	8.07	Codes with Specified MTSI Treatment
6c	6.03	Codes with Specified RDBI Treatment
6d	6.03	RDBs Containing Specified TSG
6e	8.03	List TSGs with Same MTSC
6f	8.09	List TSGs with Same GNSC
6g	9.02	Spare 1024 Word Blocks

TABLE B (Cont)

NO. 4 ESS VERIFY MESSAGES

MESSAGE NO.	CAN BE FOUND IN PARAGRAPH	FUNCTION
6h	9.02	Spare Engineered Memory Items
2d	5.05	TAN to TSN
2e	5.04	Type Toll Terminating Equipment
2f	5.04	TANs and Assigned Equipment per TSI Level
2g	5.06	Trunks per SP Circuit Pack
2h	5.07	CCIS Labels — Assigned and Spare
6i	5.06	MSN Translator
6j	4.02	Trunk Group to TSG
4f	8.11	CAMA Translator
1e	5.03	Network Appearances per TSG

Operations Center (MOC) personnel of the information desired. MOC personnel will retrieve the information, translate it into the English language, and furnish it to the machine administrator.

1.05 The No. 4 ESS Translation Guide (TG4) describes in detail the use of all verify messages. The Western Electric Company is responsible for issuing and maintaining TG4.

> *Note:* This DFMP section refers to all verify messages by their output number; TG4 describes the inputs necessary to obtain these messages.

1.06 Distribution of the No. 4 ESS Translation Guide will be made on an individual or bulk basis from a standing order list. Ordering information on TG4 is covered in DFMP Division H, Section 9c.

2. REINITIALIZATION RECORDS

General

2.01 The translation area is protected by two methods. Backup information is contained on file store and an additional set of backup information is maintained on magnetic tape.

2.02 The No. 4 ESS reinitialization tape is used to reestablish No. 4 ESS data structures when existing data structures are determined to be incorrect. When data structures are reestablished from the reinitialization tape, the new structures will not reflect recent change messages which were introduced into the system since the last reinitialization tape update.

2.03 Another type of data structure reinitialization occurs when the recent change rollback process is used. The recent change rollback process replaces the last "n" recent changes with data that existed prior to the recent change. (The "n" is a quantity which will not exceed the number of RCDMs placed into the test state plus the number placed into the activated state since the second preceding reinitialization tape update.) A description of the reinitialization process is found in DFMP, Division H, Section 9g, "No. 4 ESS Reinitialization."

2.04 Records must be maintained to identify recent change messages which were introduced since the last two reinitialization tape updates. The records allow the machine administrator to reintroduce the correct recent change messages after a No. 4 ESS data structure reinitialization.

2.05 The No. 4 ESS uses two types of recent change messages, Recent Change Data Message (RCDM) and Recent Change Action Message (RCAM). RCDMs specify the data to be changed. RCAMs specify actions to be taken on RCDMs. TG4 describes all recent change messages in detail. DFMP Division H, Section 9c, "No. 4 ESS Assignments," describes the use of recent change messages.

2.06 RCDMs may reside in No. 4 ESS memory in one of three states: the buffered state, the test state, or the activated state.

Buffered and Test State RCDMs

2.07 The Model 4210 Magnetic Tape Unit in the Machine Administration Center (MAC) makes a cassette tape copy of all RCDMs placed into the buffered state. A cassette tape copy of all RCDMs in the test state is provided in the MOC. RCAMs which activate test-state messages are also retained on the MOC cassette. An entry is made on the MOC cassette tape each time the reinitialization tape is updated. These tapes serve as records of RCDMs placed into the buffered and test states since the last two reinitialization tape updates.

Activated RCDMs

2.08 Records must be maintained for determining which RCDMs have been activated since the last two reinitialization tape updates. These records are called the "Reinitialization File."

Reinitialization File

2.09 The Reinitialization File consists of a binder which contains hard copies of all RCDMs which have been activated since the second preceding reinitialization tape update. A divider separates the orders at the point of the most recent reinitialization tape update.

2.10 Each time an RCDM is activated, the recent change "Active File" (see 3.17 through 3.21) copy of the order should be moved to the Reinitialization File. The order should be placed at the front of the binder. Each time the reinitialization tape is updated, all orders behind the divider should be discarded, and the divider placed at the front of the binder.

Reinitialization Records Checks

2.11 Since reinitialization records are active for a relatively short time, periodic accuracy checks are not necessary.

3. RECENT CHANGE RECORDS

Requirements for Recent Change Records

3.01 Recent change records are needed to schedule work, to allow reference to an RCDM, and to ensure timely processing and activation of the RCDM. The recent change records must meet the following objectives:

(a) Assign RCDM order numbers

(b) Provide come-up capabilities

(c) Provide capabilities for workload balancing

(d) Provide the status of orders

(e) Provide the ability to index by due date

(f) Provide the ability to index by order number

(g) Provide the ability to index by work detail.

Recent Change "Inactive File"

3.02 The Inactive File is created locally. It is used to assign RCDM order numbers. The file consists of a group of 3- by 5-inch cards in a bin. The cards are called "Order Number" cards. The cards have a number printed or stamped on them. The numbers may range from 500,000 through 999,999. Numbers 000,000 through 499,999 are reserved for the routing supervisor. Two sets of cards should bear duplicate numbers, and the two sets should be different colors.

3.03 A recommended starting point is 500 pairs of duplicately numbered cards numbered 500,000 through 500,499. Additional blocks (500 pairs) of cards may be added as the quantity of RCDMs processed by the office requires it.

3.04 When a new RCDM is to be processed, the machine administrator randomly picks a pair of duplicately numbered cards from the Inactive File. The number appearing on the cards may be

assigned as the RCDM order number. No entries are made on the cards.

Recent Change "Come-Up File"

3.05 The Come-Up File is created locally and is used to ensure timely processing of RCDMs. The Come-Up File consists of a group of 3- by 5-inch index cards with tabs. The tabs on 12 index cards bear the names of the months of the year. Two sets of 31 index cards each should be numbered to represent the days of the month. One additional index card should be labeled "HOLD."

3.06 The index cards should be arranged in a bin. The index card which bears the name of the current month should be in front. The second index card should be one which bears the number of the current day of the month. Cards representing the remaining days of the current month should be filed sequentially behind the card for the current day.

3.07 Following the index card which represents the last day of the current month should be the index card for the next month. Following the next month's index card should be a set of index cards representing each day of the month.

3.08 The card for the next succeeding month should follow, with the day cards for the first "n" days of the month. (The "n" is equal to the number of days in the current month which have passed.) Index cards representing the remaining months should follow chronologically. The HOLD card should be placed at the end. Fig. 1 illustrates a sample setup for the Come-Up File.

3.09 When new RCDMs are initiated, one of the order number cards (selected from the Inactive File) should be placed in the Come-Up File. The card bearing the order number should be filed behind the index card for the month in which the next action is due on the order.

3.10 If the month is the current month or the next month, the card bearing the order number should be placed behind the index card representing the day action is due. By gauging the number of cards behind a particular index card, the machine administrator may attempt to schedule RCDMs for followup on a day of light activity, thereby providing some workload balancing. Orders which are awaiting an unspecified date and which

have no action required by the machine administrator until information is received from another source may be filed behind the index card designated HOLD.

3.11 Each day the machine administrator should remove the index card bearing the number of the current day of the month and all order number cards which follow it. The "day" index card should be placed in sequence behind the last "day" card filed for the second succeeding month.

3.12 Each order number appearing on cards removed from the file will require some action that day. The action required can be obtained from the Active File (see 3.17 through 3.21). After the required action is taken on the order, the order number card should be reinserted into the Come-Up File behind the index cards representing the date the next action is required. If the action taken completes the order, the order number card along with its duplicate should be reinserted into the Inactive File.

3.13 On the last day of the month the machine administrator should remove the index card representing the current month and place it immediately ahead of the HOLD index card. The order number cards behind the index card representing the second succeeding month should be sorted into the slots behind the index cards representing the days of that month.

Recent Change "Due-Date File"

3.14 The Due-Date File is used to ensure timely activation of RCDMs, to help provide an estimate of the quantity of work on a particular day, and to locate an order when indexing by due date. The Due-Date File is set up similarly to the Come-Up File described in 3.05 through 3.13.

3.15 The duplicate of the order number card which was placed in the Come-Up File should be filed in the Due-Date File. The card should be filed behind the index card representing the month and day the order is due to be activated.

3.16 When the order is completed, the order number card along with its duplicate from the Come-Up File should be returned to the Inactive File.
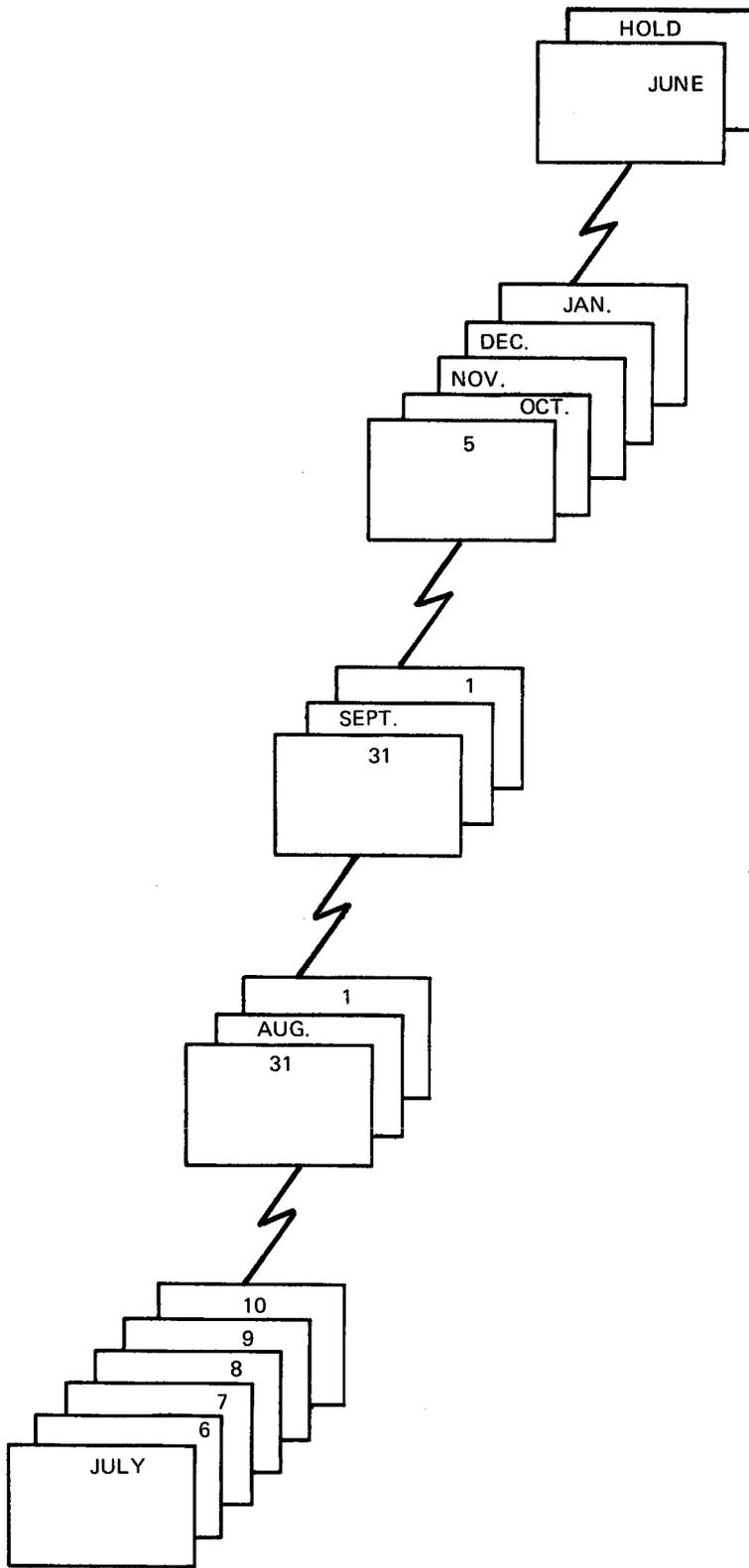
HOLD

JUNE

JAN.

DEC.

NOV.

OCT.

5

1

SEPT.

31

1

AUG.

31

10

9

8

7

6

JULY

Fig. 1—Come-Up File Setup File for July 6—Sample

Recent Change "Active File"

3.17 The Active File is used to locate an order when indexing by the order number and to maintain a log of the status of the order. The Active File consists of one or more binders containing hard copies of RCDMs. The copies are filed in numerical sequence by order number.

3.18 When the machine administrator places an RCDM into the No. 4 ESS, three hard copies (including the copy produced when the RCDM is initiated) of the RCDM from the Model 40 TTY used to enter the order should be obtained. The copies should be in page-sized sheets for filing in binders. If the RCDM was entered into this system from another location (eg, remote routing administration), the machine administrator must initiate RCAMs to obtain three hard copies of the RCDM.

3.19 One hard copy should be filed in the Active File. The orders should be arranged sequentially by order number. The other two copies will be used for the Alphabetical Work Detail File and the Numerical Work Detail File (described in 3.22.)

3.20 The Active File copy of the RCDM will be used as a log. The log should contain the status of the order and sufficient information to determine what action to take when the order number comes up in the Come-Up File. The reverse side of the hard copy can be used to make log entries.

3.21 The log should also contain the locations of copies in the Alphabetical Work Detail File and Numerical Work Detail File, and the location of the order number cards in the Come-up File and Due-Date File. When an RCDM is completed or canceled, the Active File copy should be removed and placed in the Reinitialization File. It also can be referenced to locate and remove the other copies and forms.

Alphabetical and Numerical Work Detail Files

3.22 The Alphabetical and Numerical Work Detail Files are used to locate an order when indexing by the item being worked on. The files consist of one or more binders each containing hard copies of RCDMs. In the Alphabetical Work Detail File these copies are filed in alphabetical order by trunk group name or by circuit identification number (CIN). In the Numerical Work Detail File they are arranged numerically by either code, routing data block index, profile, or other numerical value involved. When the recent change is complete, the copies should be removed and discarded.

> *Note:* If the RCDM involves only a code and no trunk group is involved, it is not necessary to keep an Alphabetical Work Detail File copy. Conversely, if only a trunk group is involved, no Numerical Work Detail File copy is necessary.

Recent Change Records Checks

3.23 Recent change records should be checked quarterly for integrity. Each order number in the Come-Up File, Due-Date File, and Work Detail Files should be located in the Active File. If any orders cannot be located in the Active File, efforts must be made to determine the status of the order.

3.24 An RCAM may be used to request a list of order numbers contained in the RCDM buffer. If any "lost" order numbers appear on the list, RCAMs may be initiated to request hard copies of the orders and the files should be reestablished. Other parties involved in the order may be contacted to help determine its current status.

3.25 Any "lost" order number not on the list of order numbers in the RCDM buffer should be searched for in all other recent change files. If no reference to the order number is found, it must be assumed as cleared or canceled and the records which do exist should be cleared. If a copy of the order exists, other parties involved should be contacted to help determine its status.

3.26 As an additional check, the location of the order number card in the Come-Up File should be read from each order in the Active File. The Come-Up File should then be checked to assure that the order number cards are in place. If any order number cards are not found in the Come-Up File, the Inactive File and the Due-Date File should be searched for the missing card. If it cannot be located, a new one must be prepared and inserted into the appropriate Come-Up File location. The appropriate location can be determined from the Active File. Finally, each order whose order number card appears behind the HOLD card in

the Come-Up File should be checked for any change in status of the order.

4. TRUNK SUBGROUP RECORDS

General

4.01 Records are needed to determine in which TSG a new trunk will reside. The machine administrator must maintain records of TSGs existing within each trunk group, the characteristics of each TSG, and a record of incoming traffic separation classes (INSEP) for assignment in TSGs. The first two of these records are available through verify messages. A paper record is required for the latter.

Record of TSGs Within Trunk Group

4.02 Verify message 6j may be used to obtain a record of TSGs within a trunk group. The machine administrator may input the name of any trunk group, and the verify system will supply a list of TSGs within the trunk group.

Record of TSG Characteristics

4.03 Verify message 1a, 1b, or 1c may be used to obtain a record of 2-way, one-way incoming, and one-way outgoing TSGs, respectively. The machine administrator may input the name of any TSG and the verify system will supply the characteristics of that TSG.

Record of INSEP Assignments (Form E6352A)

4.04 A paper record must be maintained to describe the type of traffic assigned to each INSEP. Form E6352A is used for this purpose. The entries in the "TYPE TRAFFIC" columns of form E6352A should be in descriptive terms, with enough detail to allow positive determination of the proper INSEP for any TSG.

4.05 A copy of Form E6352A is provided in Fig. 2. DFMP Division H, Section 9c describes the method of assigning INSEPs.

Trunk Subgroup Records Checks

4.06 An annual check should be made to ensure the integrity of INSEP records. Use verify messages 1a, 1b, and 1c to determine the INSEP assigned to each TSG. Assure that the assignments are consistent with the INSEP uses listed on Form E6352A.

5. TRUNK ASSIGNMENT RECORDS

General

5.01 Records must be maintained to identify the equipment and distributing frame locations to which a trunk is assigned. They must also identify which trunks are assigned to certain equipment, and what equipment is spare and available for assignment.

Facility Assignment Record

5.02 This information will be issued at a later date.

Time Slot Interchange Assignment Records

5.03 Trunk appearances on a time slot interchange (TSI) frame are identified by their trunk appearance number (TAN). Verify message 2a, 2b, or 2c can be used to obtain a list of TANs assigned to a particular TSG. Verify message 1e provides the number of trunks in a TSG which appear on each TSI frame.

5.04 Verify message 2e allows the machine administrator to specify the type of terminal equipment, a TSI frame, and a switching and permuting circuit (SPC). The verify system will list all spare TANs within the specified parameters. Verify message 2f identifies the quantity and types of terminal equipment wired to each TSI level.

Signal Processor Assignment Records

5.05 Trunk appearances on a signal processor (SP) are identified by their trunk scanner number (TSN). Verify message 2d allows the machine administrator to obtain the TSN associated with any assigned TAN.

5.06 Verify message 2g can be used to identify the trunks assigned to any SP circuit pack. Verify message 6i allows the machine administrator to obtain a record of the miscellaneous scanner number (MSN) translator which identifies the miscellaneous SP points associated with a trunk.

FORM E6352A
NO. 4 ESS TRAFFIC SEPARATION
ASSIGNMENTS
INSEP

Class	Type	Traffic
0		
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Class	Type	Traffic
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31	TEST CALLS	

Fig. 2—Copy of Form E6352A—No. 4 ESS Traffic Separation Assignments—INSEP

CCIS Label Assignment Record

5.07 Verify message 2h can be used to obtain a listing of assigned and spare common channel interoffice signaling (CCIS) labels.

Other Equipment Assignments

5.08 A listing of other equipment and distributing frame locations assigned to each trunk may be obtained from the Circuit Maintenance System (CMS). DFMP Division H, Section 9d, describes CMS records.

Trunk Assignments Records Checks

5.09 This information will be issued at a later date.

6. ROUTING DATA BLOCK RECORDS

General

6.01 Routing data block (RDB) records are used with code grouping records and screening records to identify the acceptable digit count (ADC), first route, alternate routes, automatic out-of-chain (AOOC) routes, and final handling treatment (FHT) for any code. RDB records also identify digit deleting and prefixing for each TSG within the RDB, and inward wide area telephone service (INWATS) RDBs identify additional information pertinent to routing INWATS calls.

6.02 Fig. 3 provides a flowchart of the procedure necessary to determine No. 4 ESS code routing.

6.03 Five software records are available for RDBs. Verify messages 5a, 5b, and 5c provide RDB characteristics for in-chain RDBs, INWATS RDBs, and AOOCRDBs, respectively. Verify message 6c provides a list of all codes pointing to a given RDB. Verify message 6d provides a list of all RDBs which contain a given TSG.

Record of INWATS States (Form E6353)

6.04 When verify message 5b is used to obtain INWATS RDB characteristics, the zonal band distance is identified for each originating INWATS state (IS) which is served by the No. 4 ESS. The ISs are identified by a 1-digit index. Form E6353 (Fig. 4) must be used to translate the INWATS

state index (INWST) into an actual geographic area. Each time a new INWST is assigned, the machine administrator must enter its geographic location onto Form E6353.

Routing Data Block Records Checks

6.05 RDB records must be periodically checked for integrity. This is accomplished during the annual routing verification. If the routing supervisor has access to a remote routing administrator port, the routing verification will be made directly via the port.

6.06 If no port is available, the routing supervisor will furnish a list of verify messages required. The machine administrator must obtain hard copies of the verify messages requested and send them to the routing supervisor.

7. CODE GROUPING RECORDS

General

7.01 Code grouping records are used with RDB records and screening records to determine the characteristics and routing for any code. A combination of software and hardware records is used to store information which describes the routing of codes.

7.02 Fig. 3 provides a flowchart of the procedure necessary to determine No. 4 ESS code routing.

Record of Domains (Form E6354)

7.03 The first step in determining the disposition of a code is to select the correct domain. Codes used in the nationwide direct distance dialing (DDD) network will be members of the plain old telephone service (POTS) domain. Form E6354 must be used to identify other domains.

7.04 Each time a new domain is assigned, the machine administrator must enter the type traffic onto Form E6354 (Fig. 5).

Record of Code Groups

7.05 Verify messages 3b, 3c, and 3d identify the disposition of codes in 3-digit code groups; 4-, 5-, and 6-digit code groups; and 7-, 8-, and 9-digit code groups, respectively. The machine
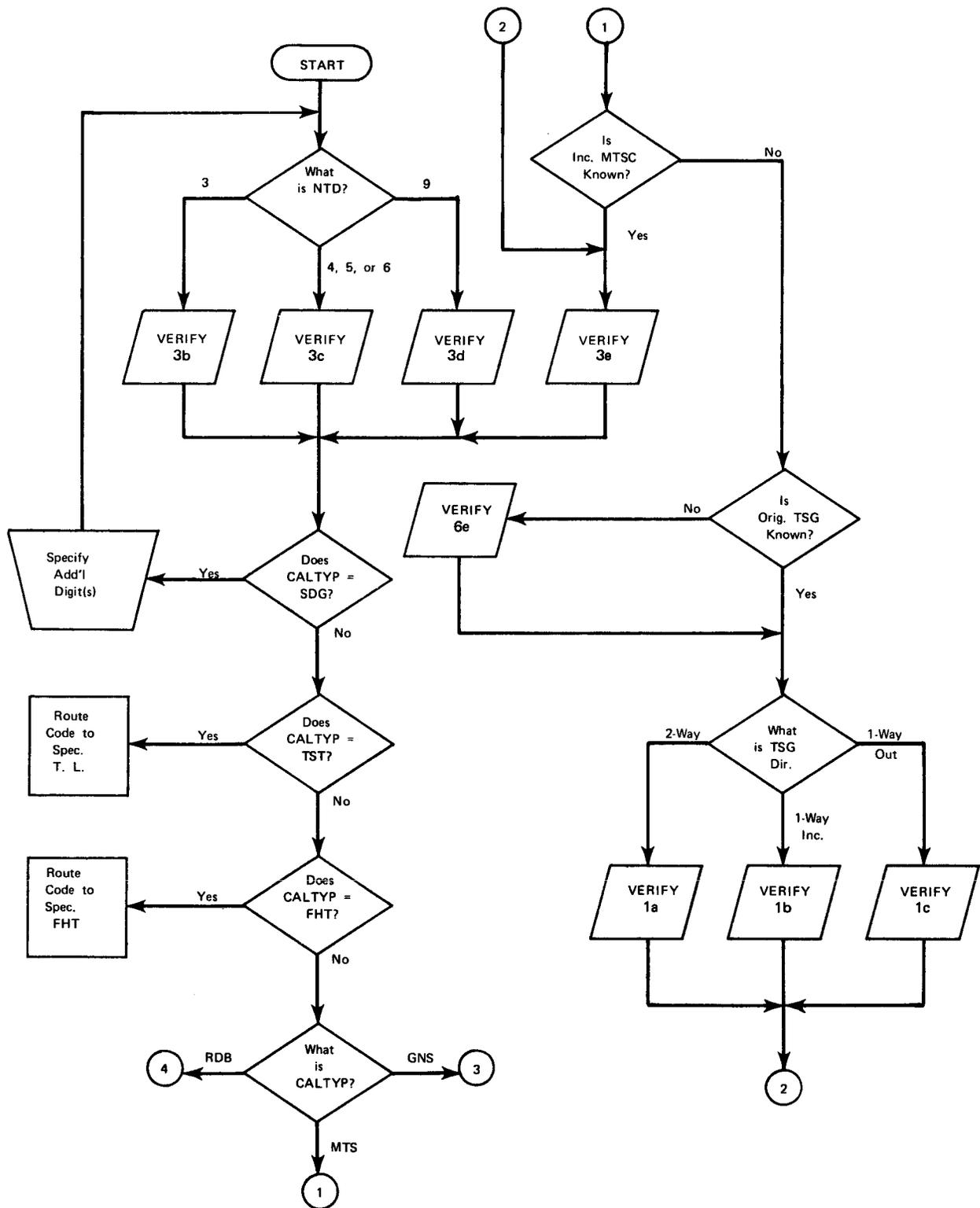
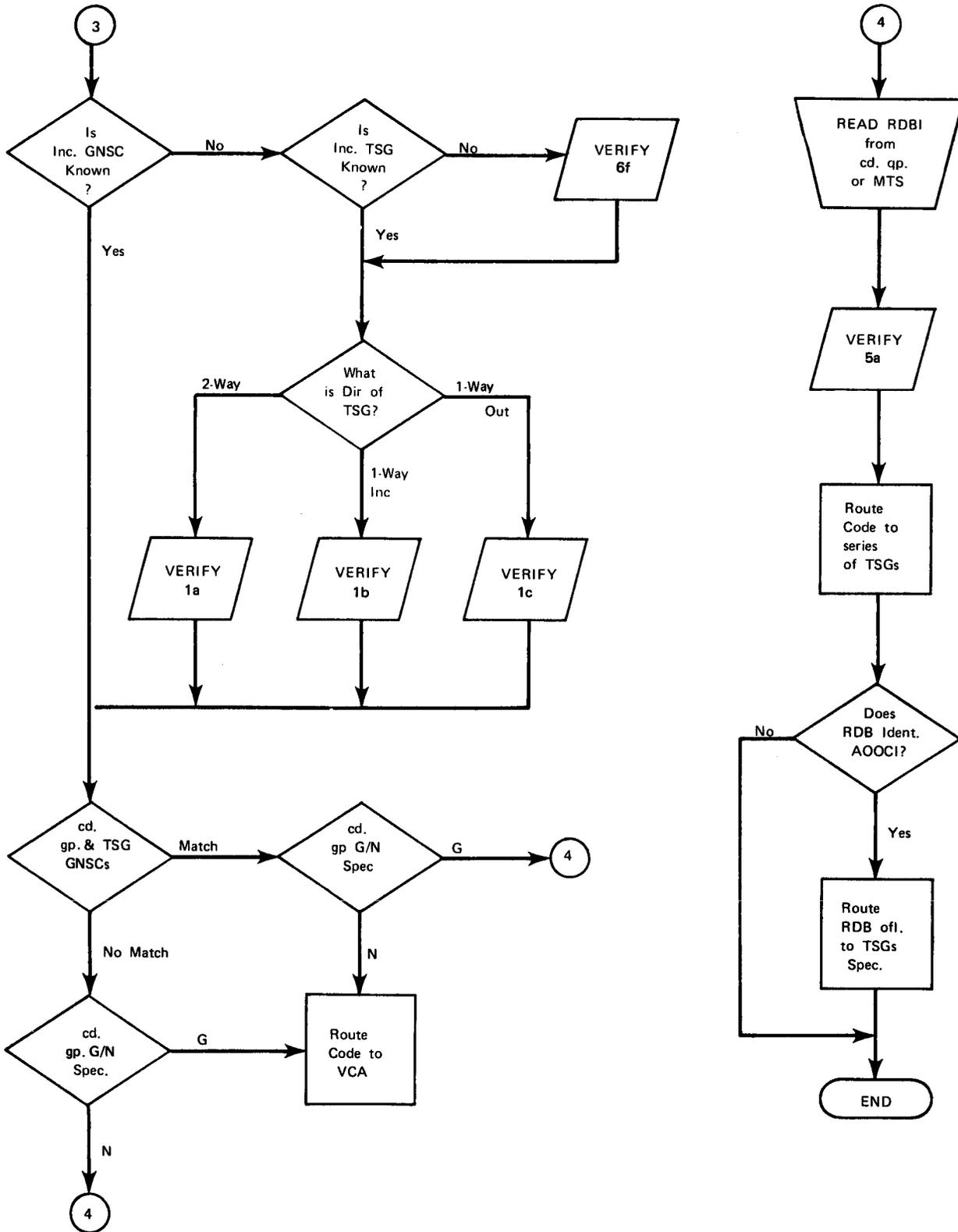**Fig. 3—No. 4 ESS Code Routing Determination (Sheet 1 of 2)**

Fig. 3—No. 4 ESS Code Routing Determination (Sheet 2 of 2)

**FORM E6353
NO. 4 ESS INWATS STATES**

INWST	INWATS STATE
1	
2	
3	
4	
5	
6	

Fig. 4—Copy of Form E6353—No. 4 ESS INWATS States

administrator must enter the domain, the number of digits to be translated, and the code. The machine administrator must also specify whether or not the code is an area code (AC).

7.06 The verify system will identify the data as representing one of the following six call types (CALTYP).

- Routing Data Block (RDB)

- Final Handling Treatment (FHT)

- Multiple Treatment Screening (MTS)

- Go/No-Go Screening (GNS)

- Test (TST)

- Subsequent Digit (SDG).

7.07 If the CALTYP is RDB, the final disposition may be determined directly from RDB records. If the CALTYP is MTS or GNS, screening records must be considered. Part 8 of this DFMP provides a description of screening records.

7.08 For FHT and TST CALTYPs, the final disposition is directly to the announcement, tone, or test line identified.

7.09 An SDG CALTYP indicates that additional digits are required to translate the code.

Record of DESEP Assignments (Form E6352B)

7.10 A paper record must be maintained to describe the type of traffic assigned to each destination traffic separation class (DESEP). Form E6352B is used for this purpose. The entries in the "TYPE TRAFFIC" columns of Form E6352B should be in descriptive terms, with enough detail to allow positive determination of the proper DESEP for any code group.

7.11 A copy of Form E6352B is provided in Fig. 6. DFMP Division H, Section 9c, describes the method of assigning DESEPs.

Record of Universal Treatment Codes, Nonreroutable Codes, Dial Pulse 3-Digit Codes, and Dial Pulse 6-Digit Codes

7.12 Verify message 3f provides a record of all codes which are classified as universal treatment, nonreroutable, dial pulse 3-digit, and dial pulse 6-digit codes. DFMP Division H, Section 9c defines these classifications.

FORM E6354
NO. 4 ESS DOMAIN ASSIGNMENTS
NON-POTS DOMAINS

Domain	Assignment
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	

Domain	Assignment
36	
37	
38	
39	
40	
41	
42	
43	
44	
45	
46	
47	
48	
49	
50	
51	

Fig. 5—Copy of Form E6354—No. 4 ESS Domain Assignments—Non-POTS Domains (Sheet 1 of 2)

FORM E6354
NO. 4 ESS DOMAIN ASSIGNMENTS
NON-POTS DOMAINS

Domain	Assignment
52	
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	

Domain	Assignment
68	
69	
70	
71	
72	
73	
74	
75	
76	
77	
78	
79	
80	
81	
82	
83	

Fig. 5—Copy of Form E6354—No. 4 ESS Domain Assignments—Non-POTS Domains (Sheet 2 of 2)

FORM E6352B
NO. 4 ESS TRAFFIC SEPARATION
ASSIGNMENTS
DESEP

Class	Type	Traffic
0		
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Class	Type	Traffic
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		

Fig. 6—Copy of Form E6352B—No. 4 ESS Traffic Separation Assignments—DESEP (Sheet 1 of 2)

FORM E6352B
NO. 4 ESS TRAFFIC SEPARATION
ASSIGNMENTS
DESEP

Class	Type	Traffic
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		

Class	Type	Traffic
48		
49		
50		
51		
52		
53		
54		
55		
56		
57		
58		
59		
60		
61		
62		
63	TEST CALLS	

Fig. 6—Copy of Form E6352B—No. 4 ESS Traffic Separation Assignments—DESEP (Sheet 2 of 2)

Record of Served Numbering Plan Areas (NPA) (Form E6355)

7.13 The No. 4 ESS is capable of serving toll connecting trunks from a maximum of eight NPAs. These include the home NPA (HNPA) and a maximum of seven served NPAs (SNPA). Form E6355 (Fig. 7) is used to maintain a record of the NPAs served by the office. Form E6355 has an "H" or an "S" preprinted in the area of origin (AO) column. (The "H" represents the HNPA and the "S" represents an SNPA.)

7.14 Each time toll connect trunks are established which connect the No. 4 ESS to a new SNPA, the machine administrator must enter the 3-digit NPA code onto Form E6355. If customers within the NPA are allowed to prefix their HNPA code on intra-NPA calls (permissive 10-digit dialing), enter a "Y" in the column headed "PERMIT 10." If intra-NPA 10-digit dialing is not allowed, enter an "N."

7.15 An entry in the 10-digit intra-NPA dialing disallowed final handling treatment (No 10 FHT) column must be made for each NPA which has an "N" in the "PERMIT 10" column. The entry specifies the treatment that will be given to customers who dial their HNPA followed by seven digits. Valid entries are listed below:

- VCA — Vacant Code Announcement

- ROA — Reorder Announcement

- EA1 — Emergency Announcement Channel 1

- EA2 — Emergency Announcement Channel 2

- SA1 — Spare Announcement Channel 1

- SA2 — Spare Announcement Channel 2

- T — Tone Source.

Record of Inter-NPA 7-Digit Dialing

7.16 Verify message 3a provides a record of codes which may be dialed on a 7-digit basis for inter-NPA calls. These are referred to as "protected codes."

FORM E6355
NO. 4 ESS SERVED NPAs

AO	NPA	PERMIT 10	NO10FHT
H			
S			
S			
S			
S			
S			
S			
S			

Fig. 7—Copy of Form E6355—No. 4 ESS Served NPAs

Code Grouping Records Checks

7.17 Code grouping records will be checked during the annual routing verification which is described in 6.05 and 6.06.

7.18 Additional checks should be made annually to ensure the integrity of DESEP records. The machine administrator should use verify messages 3b, 3c, and 3d to determine the DESEP assigned to each code. It should then be assured that the assignments are consistent with the DESEP uses listed on Form E6352B.

8. SCREENING RECORDS

General

8.01 Screening records are used with code grouping records and RDB records to determine blocking patterns and routing for any code. Fig. 3 provides a flowchart of the No. 4 ESS code routing determination process.

Vacant Code Screening Records

8.02 Vacant code screening records consist of a combination of code grouping records, RDB records, MTS records, and GNS records. In order to determine if a vacant code is properly screened, the routing for the code should be investigated in the same manner as a working code. Part 7 of this DFMP describes the procedure.

Multiple Treatment Screening Records

8.03 When a code grouping verify message identifies a CALTYP of MTS, verify message 3e can be used to obtain a distinct disposition for each of the 16 multiple treatment screening classes (MTSC) which are applied to 2-way and one-way incoming TSGs. Verify message 6e can be used to obtain a list of all TSGs included in an MTSC.

8.04 Verify message 3e will identify one of the following four CALTYPs for each MTSC:

- Routing Data Block (RDB)

- Final Handling Treatment (FHT)

- Go/No-Go Screening (GNS)

- Test (TST).

8.05 If the CALTYP is RDB, the final disposition may be determined directly from RDB records. If the CALTYP is GNS, see 8.08 through 8.10 for a description of GNS records.

8.06 For FHT and TST CALTYPs, the final disposition is directly to the announcement, tone, or test line identified.

8.07 Verify message 6b will provide a list of all codes which point to a given multiple treatment screening index (MTSI).

Go/No-Go Screening Records

8.08 When a CALTYP of GNS is specified by the code grouping or MTS verify message, the code grouping or MTS message which identified the CALTYP will provide some additional information. The additional information will include a go (G) or no-go (N) indication. It will also identify a go/no-go screening class (GNSC) and a routing data block index (RDBI).

8.09 If a G condition is indicated, all TSGs which are included in the identified GNSC will be routed to the RDBI which is identified. Final disposition can then be determined from RDB records. Verify message 6f can be used to obtain a list of all TSGs which are included in the GNSC. All other TSGs will be routed to VCA.

8.10 If an N condition is indicated, all TSGs which are included in the identified GNSC will be routed to VCA. All other TSGs will be routed to the RDBI which is identified. Final disposition can then be determined from RDB records.

Centralized Automatic Message Accounting (CAMA) Screening Records

8.11 Verify message 4f provides the ability to specify any combination of originating and terminating codes. The verify system will indicate whether or not the terminating code specified is blocked from receiving calls originated by the originating code specified. The indication applies only to CAMA screening and does not indicate if the call is blocked by vacant code screening, MTS, or GNS.

Record of Valid Calling Codes

8.12 Verify message 4a can be used to obtain a list of originating office codes which are allowed to originate CAMA calls over a given trunk group.

Record of Codes Unauthorized for CAMA

8.13 Verify messages 4c and 4d provide a list of codes which are not allowed to be routed when the call originates on a CAMA trunk.

Record of Local Call Intercept (LCI) Blocking Patterns

8.14 Verify messages 4b and 4e are used to identify the codes blocked by a given LCI profile.

Screening Records Checks

8.15 Screening records will be checked during the annual routing verification which is described in 6.05 and 6.06.

9. OTHER MACHINE ADMINISTRATION RECORDS

9.01 *Unit-Type Translator Records:* Unit-type translator records are used to obtain information associated with hardware and other units. Verify messages 7a, 7b, and 7c can be used respectively to obtain information about unit-type member, equipage, and unit-type entries.

9.02 *Records of Spare Memory:* Records of spare memory are used by the machine administrator to determine the availability of memory for future assignment. Verify message 6g provides a list of spare 1024 word blocks of memory. Verify message 6h provides a list of certain spare engineered memory items.

9.03 *Other Machine Administration Records Checks:* Unit-type translator records will be maintained by personnel in the MOC. Records of spare memory will be maintained through analyzation procedures described in DFMP Division H, Section 9f, "No. 4 ESS Traffic Measurements."